REMARKS

This Amendment is in response to the Final Office Action dated November 5, 1999. Claims 1-31 are pending in the present application. Claims 1-4, 7, 11, 21, and 31 have been amended. Claims 1-31 remain pending. Attorney for Applicant thanks Examiner Moe for his helpful comments during a telephone interview on January 6, 2000.

Claims 11, 11, 21, 28 and 31 have been amended to clarify that all mode-specific items in a given mode are displayed in alignment; that the mode-specific items are "scrolled" on the display; and to make clear that at least two operating modes of the digital imaging device are "navigated in substantially the same manner." Claims 2-4 and 7 have been amended to provide proper antecedent basis.

The Examiner rejected claims 1-10, 11-19, 21-23 and 25-27 under 35 U.S.C. §103(a) as obvious over Japanese Patent No. JP8-223,524 issued to Matsumoto in view of U.S. Pat. No. 5,513,306 issued to Mills et al, and Mcintyre et al (U.S. 5,940,121). Claim 20 is rejected under 35 U.S.C. §103(a) as being unpatentable over Matsumoto and Mills, and further in view of Isoguchi et al. (U.S. 5,146,353). Claim 24 is rejected under 35 U.S.C. §103(a) as being unpatentable over Matsumoto and Mills, and further in view of Matsumoto et al. (U.S. 5,796,428). Claims 28-29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Matsumoto and Mills, and Isoguchi.

Applicant respectfully disagrees. Independent claims 1, 11, 21, 28, and 31 are directed to a method or system for integrating a user interface across multiple operating modes of a digital camera. According to the present invention, a user may navigate through and access the contents and features of a multiple-mode digital camera using a consistent and intuitive user interface.

Example operating modes include a review mode, and a menu mode, both of which have a similar look and feel and are operated in the same manner.

As recited in the independent claims, in each operating mode, a set of mode-specific items are displayed in which all the mode-specific items are aligned to the orientation of one set of navigational buttons. The user navigates among the items by the user by pressing that set of navigational buttons which causes the mode-specific items to scroll across the display. For an active mode-specific item, additional information is displayed in a direction offset from the items in a direction aligned with the second set of navigational buttons. Because the user interacts with the camera in each of various operating modes using the hardware buttons in a similar manner, the learnability and usability of the camera are enhanced.

In contrast, Matsumoto '524 is directed to a portable video camera equipped with playback and editing functions. Matsumoto's camera is operated by moving a cursor (201) about a display using a cursor control button (111) and selecting mode icons 207-210, as shown in Fig. 4c.

Mills is directed to a PC-based video editing system that displays various windows for viewing and editing video information. One such window shown in FIG. 2 displays key frames (40) and includes horizontal and vertical scroll bars (46, 48) for scrolling the images within the window up-and-down and sideways (Col. 5 line 40+).

Macintyre discloses a hybrid camera that includes a pair of imaging systems for capturing images both on photographic film and digitally, and for selecting album formats for the film images. Once an image is captured, the image is displayed on the display and a user determines whether the image should be printed as part of an album as well as the format by responding to a

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series of text prompts supplied through a text display (24). Increment and decrement buttons (52 and 54) are used to scroll through scripted menu choices visible in the text display (Col. 6, lines 50+).

In rejecting claims 1-10, 11-19, 21-23 and 25-27, the Examiner contends that Matsumoto '524 teaches mode-specific items (elements 207-210) and teaches scrolling from one mode-specific item to the next using the cursor (201) and a set of buttons (111). The Examiner also states that Mills teaches scrolling means (vertical and horizontal scroll bars 46 and 48). The Examiner further contends that Mcintyre teaches the use of navigation buttons (52, 54) in the camera so that the user may hold down the navigation buttons (52, 54) to scroll-off the mode-specific items from the display.

A combination of Matsumoto '524, Mills, and Mcintyre would result in the video camera of Matsumoto that has multiple operating modes. The video camera would display Mills's video log window (32) and file menu (24) as well as McIntyre's text display (24). A user would access these elements by placing Matsumoto's cursor (201) in the desired location using the cursor control button (111).

Such a combination fails to produce the present invention as claimed. Foremost, the combination does not teach or suggest a multi-mode digital camera in which at least two of the operating modes are navigated by the user in "substantially the same manner." More specifically, the combination fails to teach or suggest a) placing a digital camera into a first operating mode; b) displaying all of the mode-specific items in an alignment mapped to the orientation of a first button; c) scrolling the mode-specific items by pressing the first button and indicating which item is currently active; d) displaying additional information corresponding to a currently active item

in a position on the display vertically offset from the plurality of mode-specific items; and e) placing the digital camera into a second operating mode and repeating steps b) through d), to "thereby improving ease of use of the digital imaging device," as recited in amended claim 1, for example.

Instead, the combination would require the user to remember which windows and icons to select with the cursor, and in what order, in each of the various operating modes. For example, Matsumoto's capture screen shown in Figure 5c, does not work the same way as the multi-play screen of FIG. 6a because both the icons and the positions of the icons change with a change of modes, requiring the user to remember selection sequences in order to operate the camera. In the present invention by contrast, all that is required to navigate at least two of operating modes is "a user controlled horizontal interaction," which is followed by a vertical response by the digital imaging device," as recited in claim 21.

The Examiner took issue with Applicant's previous argument that one with ordinary skill in the art, who was attempting to solve usability problems in a hand-held device would not have any incentive or motivation to look for solutions to the problem in the art of PC-base video editing. Applicant, however, it is not basing this argument on architectural differences between PCs and cameras that are controlled by microcomputer. Rather, the argument is based on the design limitations imposed by a portable camera that has a two-inch LCD screen, versus video editing software as taught by Mills that is designed for use on a full-sized PC monitor.

As stated above, a combination of the cited references would have to display an image as shown in FIG. 4c of Matsumoto, Mills's video log window (32) and file menu (24), and McIntyre's text display (24) in order to attempt to achieve the functionality of the present

invention. First, all of this information would not fit on a two-inch screen of a digital camera. And second, if the information were shrunk to fit, it would be completely unintelligible and inoperable by the user. This is why conventional PC GUI's are not used on digital cameras, and why one of ordinary skill in the art would not look to art such as Mills for solutions on how to make a digital camera easier to navigate and operate.

Besides failing to provide an integrated user interface across multiple operating modes, the combination of references also fails to teach or suggest the claimed method of navigation among the mode specific items. The amended claims of the present invention now recite "scrolling the mode specific items by pressing the mapped navigation button."

Both Matsumoto '524 and Mills teach a conventional PC-type cursor interaction, where Matsumoto's cursor control button (111) replaces a mouse. In the rejections, the Examiner maintains that such a cursor interaction is synonymous with scrolling items on a display. Applicant respectively disagrees, especially when considering that a goal of the present invention is to provide a user interface for a digital imaging device that is as easy and as intuitive to use as possible.

A cursor is defined as a "symbol used to point to some element on screen" (TechEncyclopedia); whereas scrolling is defined as "causing text or graphics to move vertically or horizontally across the screen ..." (Webster's II New College Dictionary 1995). This definition is consistent with the use of the word "scrolling" in the Specification. In Fig. 9 showing the review mode, for example, as a user presses the navigation buttons 410a and 410b, the thumbnails 700 scroll across the LCD screen and are replaced by new ones. Similarly, in Figs. 10A and 10B showing menu mode, as a user presses the navigation buttons 410a and 410b,

the menu icons 720 scroll across the LCD screen and are replaced by new ones. Thus, navigation and operation in both the review mode and the menu mode is the same.

It is submitted that none of the primary references, singularly or in combination, teaches "scrolling the mode-specific items" as claimed in the present invention. Mills's key frames 40 scroll, but only by placing a cursor over the scroll bars in a window and pressing some other button. The prompts in McIntyre's text display also scroll, but the prompts are shown displayed only one at a time, rather than in a "set". Since the prompts are not displayed in a set, the prompts cannot be said to be "aligned" to the orientation of any buttons, as claimed.

The icons 207-210 in Matsumoto '524 Fig. 4c, Mills's menu headers 24, Fellegara's icons 210-218 in Figs. 11 and 12, and the thumbnail images in Matsumoto 428 Fig. 8, all have static positions on the screen and must be selected either by moving a cursor or a highlight area to the desired location. Therefore, they do not "scroll" and change positions as the mode-specific items claimed in the present invention. Moreover, in these references, the type of icons and the positions of the icons change depending on the mode of the camera. Therefore, a user cannot operate the different modes of the prior art cameras by repeating the same sequence of steps as in the present invention, and as recited in step (e) of independent claims 1 and 21.

Therefore, the references fail to teach or suggest, singularly or in combination, "scrolling the mode-specific items in the aligned set by pressing the mapped navigation button." The references further fail to teach or suggest that different aligned sets of mode-specific items are scrolled in at least two different operating modes such that a user may navigate the at least two operating modes in substantially the same manner, as recited in independent claims 1, 11, 21, 28 and 31. Consequently, the cited prior art fails to solve the problem overcome by the present

invention -- providing a consistent and intuitive user interface for a complicated and feature laden digital imaging device.

Claim 31 was rejected under 35 U.S.C. § 103(a) as been unpatentable over Fellegara (5,845,166) in view of Matsumoto (5,796,428).

Applicant respectively traverses this rejection. Fellegara teaches a camera that has multiple operating modes, capture, edit, and slide show. However, Fellegara's Figs. 8, 9, 11-12, and 15 and accompanying descriptions fail to teach or suggest a "mode for displaying a set of menu categories" as recited in claim 31, and also fail to teach or suggest a "mode for playing back captured images" as recited in claim 31.

Fellegara's elements 210, 212, 214, 216, 218, and 208 are cited as being analogous to the claimed set of menu categories. However, Fellegara's elements are shown displayed in array format, rather than "all" the items being "in alignment with the orientation of" one set of navigation buttons, as recited in step (c)(i).

And as noted above, Fellegara's elements are stationary on the display and are incapable of "scrolling" in response to a user pressing the set of navigation buttons, as recited in step (c)(ii). Fig. 11 of Fellegara and its description are cited as teaching scrolling of menu categories. However, it is Fellegara's images 202 that are scrolled, rather than elements 210-218, which remain stationary.

Further, when one of Fellegara's elements is selected, no additional information corresponding to the element is displayed. Rather, Fellegara teaches that a title of the currently displayed image 202 is displayed. The title of the currently displayed image, however, is not additional information relating to the currently selected element 210-218. Therefore, Fellegara's

elements fail to teach or suggest "displaying additional information corresponding to the currently active menu category in the display in a location that is offset from the menu categories in a direction orientation corresponding to that of the second button," as recited in step (c)(iii).

With respect to step (d) of claim 31 reciting a play back mode, the Examiner admits

"Fellegara does not explicitly show the use of a set of thumbnail images ... [that] are scrolled off the display in replaced by new thumbnail images, ... [but] Matsumoto '428 teaches the use of a set of thumbnail images and such thumbnail images are scrolled off display by activating the scrolling means (604,605)."

Matsumoto's FIG. 8, however, shows a picture screen displaying an array of thumbnail images in which the thumbnail images are static and do not scroll. Instead, the user clicks a page leafing icon 604, which causes the contents of the screen to change all at once.

Also, the images are shown on the page in array format, rather than "all" being "aligned" to a set of navigation buttons, as recited in step (d)(i). Nor does Fellegara teach displaying additional information regarding a currently selected image because 1) it is not believed a user can select a specific image shown on a page, and 2) Fellegara's date information shown in figure 24 relates to several images, rather than a "currently active image", and the date information is not displayed on the same screen with the thumbnail images.

Most importantly however, a combination of Fellegara and Matsumoto '428 does not teach or suggest a digital camera that has multiple operating modes in which "a second mode and a third mode that are navigated by a user in substantially the same manner," as recited in new step (b) of claim 31.
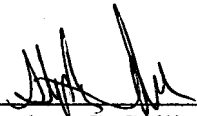
In sum, the Examiner has cited a list of references where one reference may show mode-specific items, another reference may show some form of scrolling, another

reference may show multiple operating modes, and so on. But a combination of the references, however, still fails to teach or suggest the cooperation of elements as recited in the independent claims to provide "an integrated user interface across multiple operating modes." As is well known, "it is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious...one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." In re Fritch, 972 F.2d 1260. 23 USPQ.2d 1780 (Fed. Cir. 1992). Because isolated disclosures from all the cited references have been used to reproduce the claimed invention to maintain the rejection, it is believed the combination of the references is a result of improper hindsight, and cannot be used to establish obviousness.

In view of the foregoing, it is submitted that independent claims 1, 11, 21, 28, and 31 are allowable over the cited references. The dependent claims are allowable because they are dependent upon the allowable independent claims. Accordingly, Applicant respectfully requests reconsideration and passage to issue of claims 1-31 as now presented.

Applicants' attorney believes that this Application is in condition for allowance. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Respectfully submitted,

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